TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-02-22-04** **Date: 23-03-2017**
Customer	:	Assistant Exicutive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Road and Drains at 9th Cross Nanjappa Layout in Ward No 10(Doddabommasandra), Vidayranyapura Sub Division.
Agency	:	Sri. Tulasi Ram Reddy, No 131,4th Cross 'A' Block Kaveri Nagara, Kavalbysandra, Bangalore-560 032
Customer's Reference	:	BBMP/EE/BTP/WO/219/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-02-17
Sample ID No	:	2017-02-22-04/01
Sample Type	:	Zuari 53 grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of testing	:	22-02-2017 to 22-03-2017

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.87	–
2	Finess by Air permeablity method (m2/kg, Min)	272.3	225m^2/kg, Min
3	Density (gm/cc)	3.28	–
4	Standard Consistency (%)	29.0%	Not specified
5	Initial Setting time	225 minutes	Not less than 30 minutes

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Sadha

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : **CP-2017-02-22-04** **Date: 23-03-2017**

Sample ID No : **2017-02-22-04/01**

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
6	Final Setting time	305 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	2.0mm	Not more than 10 mm
8	Compressive Strength		
	3 Days	29.5N/mm^2	Not less than 27 N/mm^2
	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
	28 Days	56.0N/mm^2	Not less than 53 N/mm^2

Note:
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Prepared by
Harshitha

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-03-14-02** **Date: 20-03-2017**
Customer	:	Assistant Exicutive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Road and Drains at 9th Cross Nanjappa Layout in Ward No 10(Doddabommasandra), Vidayranyapura Sub Division.
Agency	:	Sri. Tulasi Ram Reddy, No 131,4th Cross 'A' Block Kaveri Nagara, Kavalbysandra, Bangalore-560 032
Customer Reference	:	BBMP/EE/BTP/WO/219/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	14-03-17
Sample ID No	:	2017-03-14-02/02(a)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383 - 1970 (RA2016) (Specification for Coarse and fine Aggregates from natural sources for concrete IS: 2386 :1963(Part - 1, 2, 3) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 2: Estimation of Deleterious Materials and Organic Impurities. IS 2386 Part 3: Specific gravity, Density, Voids,Water Abservation
Date of test	:	15-03-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:1970
1	40 mm	0	0	0	100	100
2	20 mm	150	150	3	97	95-100
3	10 mm	2298	2448	48.96	51.04	25-55
4	4.75 mm	2387	4835	96.7	3.3	0-5
5	Pan	165	5000	100	0	_

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-03-14-02** **Date: 20-03-2017**

Sample ID No : 2017-03-14-02/02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-1970
1	Flakiness Index(%)	9.5	_
2	Elongation Index(%)	10.4	_
3	Specific Gravity	2.56	_
4	Bulk Density(Loose) (Kg/l)	1.57	_
5	Bulk Density(Compacted) (Kg/l)	1.48	_
6	Water Absorption(%)	0.27	_
7	Ten percent fine value(KN)	198.5	_
8	Aggregate crushing Value(%)	20.6	Shall not exceed 45% by weight for aggregates used for concrete other than for wearing surface and 30% by weight for concrete for wearing surfaces such as runways, roads, pavements
9	Aggregate Impact Value(%)	23.1	Shall not exceed 45% by weight for aggregates used for concrete other than for wearing surface and 30% by weight for concrete for wearing surfaces such as runways, roads, pavements

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Prepared by
Harshitha

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Authorized Signature
Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-03-14-02** **Date: 20-03-2017**
Customer	:	Assistant Exicutive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Road and Drains at 9th Cross Nanjappa Layout in Ward No 10(Doddabommasandra), Vidayranyapura Sub Division.
Agency	:	Sri. Tulasi Ram Reddy, No 131,4th Cross 'A' Block Kaveri Nagara, Kavalbysandra, Bangalore-560 032
Customer's Reference	:	BBMP/EE/BTP/WO/219/2016-17
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	14-03-17
Sample ID No	:	2017-03-14-02/02(b)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383 - 1970 (RA2016) (Specification for Coarse and fine Aggregates from natural sources for concrete IS: 2386 :1963(Part - 1, 2, 3) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 2: Estimation of Deleterious Materials and Organic Impurities. IS 2386 Part 3: Specific gravity, Density, Voids,Water Abservation
Date of test	:	15-03-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:1970
1	80 mm	0	0	0	100	100
2	40 mm	210	210	4.2	95.8	95-100
3	20 mm	2011	2221	44.42	55.6	30-70
4	10 mm	2076	4297	85.94	14.1	10-35
5	4.75 mm	597	4894	97.88	2.1	0-5
6	Pan	106	5000	100	0.0	---

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-03-14-02** **Date: 20-03-2017**

Sample ID No : 2017-03-14-02/02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-1970
1	Flakiness Index(%)	**10.3**	_
2	Elongation Index(%)	**11**	_
3	Specific Gravity	**2.61**	_
4	Bulk Density(Loose) (Kg/l)	**1.55**	_
5	Bulk Density(Compacted) (Kg/l)	**1.49**	_
6	Water Absorption(%)	**0.19**	_

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Prepared by
Harshitha

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT OF FINE AGGREGATE

Lab ID	:	**CP-2017-03-14-02** **Date: 20-03-17**
Customer	:	Assistant Exicutive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Road and Drains at 9th Cross Nanjappa Layout in Ward No 10(Doddabommasandra), Vidayranyapura Sub Division.
Agency	:	Sri. Tulasi Ram Reddy, No 131,4th Cross 'A' Block Kaveri Nagara, Kavalbysandra, Bangalore-560 032
Customer's Reference	:	BBMP/EE/BTP/WO/219/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	14-03-17
Sample ID No	:	2017-03-14-02/03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS: 383 - 1970 (RA2016) (Specification for Coarse and fine Aggregates from natural sources for concrete IS: 2386 :1963(Part - 1, 2, 3) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 2: Estimation of Deleterious Materials and Organic Impurities. IS 2386 Part 3: Specific gravity, Density, Voids,Water Abservation
Date of test	:	15-03-17
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:1970			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0	100	100	100	100	100
2	4.75 mm	69	69	6.9	93.1	90-100	90-100	90-100	95-100
3	2.36 mm	99	168	16.8	83.2	60-95	75-100	85-100	95-100
4	1.18 mm	82	250	25	75.0	30-70	55-90	75-100	90-100
5	600 micron	325	575	57.5	42.5	15-34	35-59	60-79	80-100
6	300 micron	193	768	76.8	23.2	5-20	8-30	12-40	15-50
7	150 micron	212	980	98	2.0	0-10	0-10	0-10	0-15
8	Pan	20	1000	100	0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-03-14-02** **Date: 20-03-17**

Sample ID No : 2017-03-14-02/03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-1970 (RA2016)
1	Water Absorption(%)	1.86	_
2	Specific Gravity	2.57	_
3	Material finer than 75 micron(%)	3.9	Not more than 15 percent

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Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-03-16-03** **Date: 20-03-17**

Customer : Assistant Exicutive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Road and Drains at 9th Cross Nanjappa Layout in Ward No 10(Doddabommasandra), Vidayranyapura Sub Division.

Agency : Sri. Tulasi Ram Reddy, No 131,4th Cross 'A' Block Kaveri Nagara, Kavalbysandra, Bangalore-560 032

Customer's Reference : BBMP/EE/BTP/WO/219/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 16-03-17

Sample ID No : 2017-03-16-03/01

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/03/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	13/03/2017	20/03/2017	151.22 X 150.76 X 150.55	22798	8.176	346.5	15.2	15.6
2	Drain Concrete	M20	13/03/2017	20/03/2017	150.81 X 149.83 X 151.09	22567	8.098	363.3	16.1	
3	Drain Concrete	M20	13/03/2017	20/03/2017	151.37 X 151.99 X 150.38	22568	8.156	347.5	15.4	

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Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-03-16-03** **Date: 10-04-17**

Customer : Assistant Exicutive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Improvements to Road and Drains at 9th Cross Nanjappa Layout in Ward No 10 (Doddabommasandra), Vidayranyapura Sub Division.

Agency : Sri. Tulasi Ram Reddy, No 131,4th Cross 'A' Block Kaveri Nagara, Kavalbysandra, Bangalore-560 032

Customer's Reference : BBMP/EE/BTP/WO/219/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 16-03-17

Sample ID No : 2017-03-16-03/01

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 10/04/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	13/03/2017	10/04/2017	149.87 X 151.09 X 150.11	22644	8.166	538.9	23.8	23.8
2	Drain Concrete	M20	13/03/2017	10/04/2017	150.22 X 151.02 X 151.51	22567	8.146	543.9	24.1	
3	Drain Concrete	M20	13/03/2017	10/04/2017	150.28 X 150.77 X 150.21	22568	8.168	530.3	23.5	

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Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST RESULTS OF STEEL

Lab ID	:	**CP-2017-03-14-02**	**Date: 19-03-17**
Customer	:	Assistant Exicutive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.	
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to Road and Drains at 9th Cross Nanjappa Layout in Ward No 10(Doddabommasandra), Vidayranyapura Sub Division.	
Agency	:	Sri. Tulasi Ram Reddy, No 131,4th Cross 'A' Block Kaveri Nagara, Kavalbysandra, Bangalore-560 032	
Customer's Reference	:	BBMP/EE/BTP/WO/219/2016-17	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	14-03-17	
Sample ID No	:	2017-03-14-02/04	
Sample Type	:	JSW Fe 500	
Reference to BIS codes	:	IS 1786-2008	
Date of test:	:	17-03-16	

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample (kg/m)	Yield stress (N/mm^2)	Tensile strength (N/mm^2)	Elongation (%)
1	JSW	Fe500	8mm	0.390	548	622	20.0%

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Bend test	Rebend test
1	JSW	Fe500	8mm	Satisfactory	Satisfactory

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Harshitha

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Authorized Signature
Quality Manager

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TEST RESULTS OF STEEL

Lab ID	:	**CP-2017-03-14-02** **Date: 19-03-17**
Customer	:	Assistant Exicutive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Road and Drains at 9th Cross Nanjappa Layout in Ward No 10(Doddabommasandra), Vidayranyapura Sub Division.
Agency	:	Sri. Tulasi Ram Reddy, No 131,4th Cross 'A' Block Kaveri Nagara, Kavalbysandra, Bangalore-560 032
Customer's Reference	:	BBMP/EE/BTP/WO/219/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	14-03-17
Sample ID No	:	2017-03-14-02/05
Sample Type	:	JSW Fe 500
Reference to BIS codes	:	IS 1786-2008
Date of test:	:	17-03-16

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample (kg/m)	Yield stress (N/mm^2)	Tensile strength (N/mm^2)	Elongation (%)
1	JSW	Fe500	10mm	0.613	556	670	21.0%

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Bend test	Rebend test
1	JSW	Fe500	10mm	Satisfactory	Satisfactory

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